

# Introduction

## Why the Golfo Dulce region?

The answer is easy. The region is a paradise for nature and nature lovers, a paradise which has not yet been spoilt by mass tourism, and hopefully this will remain true into the future. For people interested in tropical nature, rainforests, animals and plants, the Golfo Dulce is one of the most interesting areas in Costa Rica and indeed the whole of Central America. The region harbours the last tropical lowland wet forests along the Pacific coast in Central America and it is one of the few places where extreme biological diversity can be found within a relatively small geographical area. Adjacent to the Golfo Dulce, there are two national parks – the Corcovado National Park on the Osa Peninsula, and the Piedras Blancas National Park – and an important natural reserve (Golfo Dulce Forest Reserve). The core of each park is untouched rainforest, the most complex ecosystem on Earth. This may seem boring to the hurried visitor rushing through, but is in fact a wonderland for the adept who walk slowly and silently and keep their eyes, ears and mind open through the timeless forest.

## “You only see what you know”

Although rainforests are the ecosystem with the greatest numbers of plant and animal species and the most complex inter-relations, they are the last to open up for the visitor and to display their treasures. Visiting a rainforest for the first time is always an experience of disappointment and frustration: there are many trees which are almost impossible to distinguish or identify, boring colours of green and brown, no animals, and here and there a red blotch of a flower. Nothing like that which you might have seen in a coffee-table book on rainforests – no spectacular orchids, no eye-catching fruits, no colourful birds, no monkeys swinging from tree to tree. Nothing.

However, they are there! They are all there! Life in the rainforest is just secretive and covert. You have to be very, very patient to spot the jewels of the forest.

One of the aims of the present book is to uncover some of the many secrets of the Golfo Dulce forests. You must know about the secrets before you can spot them. The range and spectrum of secrets is enormous, fascinating both the biologically interested layman and the scientist. In fact, this book makes an attempt to provide information for nature lovers, students and scientists.

## People and national parks in the Golfo Dulce area

Large areas around the Golfo Dulce are now protected, in the form of national parks or natural reserves. However, the Golfo Dulce area is, of course, not only the home of forests, plants and animals, but also of people. Most of the land around the parks is rural and many people are farmers, living in poor circumstances. The small town of Golfito and the village of La Gamba, situated on the borders of the Piedras Blancas National Park can be seen as communities in transition to a higher economic standard. They may serve as model communities in the sense of local and sustainable development induced and supported by the installation of protected areas in the region.

People were already living in the area in pre-Columbian times and their life and culture changed drastically with the advent of the Spanish conquistadors (see paper BARRANTES). Until the 1930s, Golfito was a small Indian village encompassing a handful of families. When the United Fruit Company entered the region, a stark change occurred. The fertile flood plains were logged for the establishment of banana plantations, and people, mainly from the north of Costa Rica, were hired to work in the region's banana industry. A railway was constructed from Palmar Sur to Golfito for banana transportation and several villages sprang up along the railway. Within a short time, the region changed from a godforsaken backwater to a centre of fruit production in Costa Rica, particularly because of the harbour at Golfito which proved ideal for shipping fruit to the United States and to Europe. Golfito became a sizeable town and a logistic centre, with engineers, officials, mechanics, businessman and scientists living there.

In the 1970s, the idea to expand the banana plantations to the Osa Peninsula arose. However, conservation activities began at the same time and succeeded in establishing the Corcovado National Park. This exciting time of first conservation efforts in the area is covered by our book, and the editors are happy to be able to present some personal reflections from the man who was the driving force behind the foundation of the Corcovado National Park: Alvaro UGALDE.

In 1984, things again changed drastically: the United Fruit Company abandoned the banana plantations

and left the region, leaving behind a chaotic situation that still affects the local people today. Unemployment is one of the most urgent problems in the region.

People who had worked on the banana plantations and for the United Fruit Company, received farm land from the IDA (Instituto de Desarrollo Agrario) to derive some personal income. The problem was – and still is – that most of these people had no experience in agriculture, so they started to clear the primary forest of the Esquinas rainforest (Bosque Esquinas) for the production of high quality timber. This directly contravened government plans to conserve the Esquinas forest as a national park. Officially, the Esquinas forest was declared a national park on July 17, 1991. However, the Costa Rican government did not have enough money to purchase the land from the private owners. This was the point where Austria and Austrian people came into play. The Austrian musician Michael Schnitzler (violinist in the world-renowned Haydn Trio Vienna) realised the problems and founded the association “Regenwald der Österreicher” (Rainforest of the Austrians for collecting money in Austria. With these donations, important portions of the Esquinas rainforest could be purchased and ceded to the Costa Rican government. As an acknowledgement of gratitude, the Costa Rican government named those parts of the Piedras Blancas National Park that were purchased with Austrian money “Bosque de los Austriacos”. The establishment of the Piedras Blancas National Park is indeed a second milestone of conservation in the Golfo Dulce area and is highlighted properly in the present book (see paper of M. SCHNITZLER).

Today, the two national parks, Corcovado and Piedras Blancas, are connected with the Golfo Dulce Forest Reserve, but clearing is still a problem. People have started to construct forest roads for cutting unprotected forest (primary montane forest) at the Fila Costeña. This mountain section borders the Piedras Blancas National Park and is extremely important in its function as a biological corridor. The pressure on remaining primary forests in the region is still high and further conservation efforts are necessary to protect the region's nature and biodiversity efficiently.

In this context, it is also important to refer to current biological corridor projects which serve to re-establish migration and genetic exchange of plants and animals in a fragmented landscape. The paper by GARCIA addresses the Osa biological corridor and its position within Central American corridor projects; another by WEISSENHOFER et al. describes a recently established

corridor project in La Gamba. In the frame of this project, new marketing strategies for the people of La Gamba are also outlined.

## Scientific work in the Golfo Dulce area

The Costa Rican government has not only acclaimed the Austrian conservation efforts verbally, but has also enabled and encouraged Austrian scientists' research in the region. The association “Rainforest of the Austrians” bought a small “finca” and this served as the base camp for the first scientific activities in the Esquinas forest. The “finca” was the precursor of what is now the well known “Tropenstation La Gamba” (Tropical Research Station La Gamba). The foundation, growth and significance of the station is addressed in a paper by ALBERT & WEBER. Another paper (by WEBER) refers to the doctoral, diploma and baccalaureate theses that have been carried out by students of Austrian universities since the foundation of the Research Station La Gamba. As an example of the many publications that originated from the station, the “Introductory field guide to the flowering plants of the Golfo Dulce rain forests, Costa Rica” (WEBER et al. 2001) may be mentioned.

However, this is not the first time that Austrian scientists have worked in Costa Rica and in the Golfo Dulce region. The roots of this research date back to 1930, when an Austrian expedition visited Costa Rica, including the Osa Peninsula. This expedition, led by the botanist and floral ecologist Otto Porsch, is addressed in the present book by two papers, one covering the historical circumstances (DÍAZ), the other the scientific goals and results (WEBER).

Scientific work in the Golfo Dulce region was and is, of course, not restricted to Austrian scientists. Paul H. Allen, an eminent tropical botanist from the U.S. worked for several years in the region as an employee of the Research Department of the United Fruit Company. His book “The Rainforests of the Golfo Dulce” (ALLEN 1956) is still a classic.

After its foundation in 1975, the Corcovado National Park attracted many scientists from Costa Rica and the U.S. In 1989, the National Institute of Biodiversity (INBio) was established. INBio sent scientists also to the Golfo Dulce region, especially to the Osa Peninsula. Publications include the “Arboles de la Península de Osa” (QUESADA et al. 1997).

KAPPELLE et al. (2003) presented detailed ecosystem descriptions in the book “Ecosystems of the Osa Conser-

vation Area (ACOSA)", based on a cooperation project of MINAE (Ministerio de Ambiente y Energía), INBio and the Embassy of the Netherlands. Remarkable is also the "Historia natural de Golfito, Costa Rica", by LOBE & BOLAÑOS (2005).

## History of the book

The origin of a book is scarcely conceivable without a key event and personal contacts. In 2003, A. Weissenhofer and G. Aubrecht travelled with a group of patrons from the State Museums of Upper Austria through Costa Rica. The evening talks often hinged on the Golfo Dulce region, its enormous biodiversity, its little-known history, and the problems of the people living there. It was during this week that the idea to make a book about the natural and cultural history of the region emerged, as a co-operation between the Biology Centre of the State Museums of Upper Austria and the Tropical Research Station La Gamba. Step by step, the initially vague project took shape, and authors for particular topics were sought at a national and international level. The response was tremendously positive and the number of contributions increased steadily. The result is a weighty book that hopefully covers the most remarkable aspects of the nature and the people of the Golfo Dulce area.

## Content and structure of the book

The present volume gives an overview of the Golfo Dulce region by providing a selection of aspects of natural and cultural history, in the knowledge that no single book can be comprehensive in its coverage.

Generally, we tried to group papers with special scientific information around a more open and introductory "survey paper".

The first series of papers deals with abiotic characteristics, such as geography, climate and geology. The bulk of the papers refer to biological aspects, starting with plant biology (flora and vegetation, including the first presentation of a vegetation map: WEISSENHOFER et al.) and followed by animal biology and plant-animal interactions.

The last large section covers human aspects. The start is with the human history of the region and the historical roots of nature exploration. Several papers are devoted to nature conservation and current protection projects. Finally, the papers on ecotourism may give an

idea of the problems of the local people and the potential for a sustainable development in the region.

The editors have to attach importance to the statement that the authors alone are responsible for the content of their paper(s) and that their opinion does not necessarily agree with that of the editors'.

## Thanks

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## Closure

The editors would be happy if the present book proves a valuable contribution to the conservation of the rainforests and the sustainable development in the Golfo Dulce region in the beautiful Central American country of Costa Rica. May this be another stepping stone towards the preservation of these complex and vulnerable ecosystems.

The editors

# Abiotic Aspects

## Factores abióticos



Rain clouds at the Golfo Dulce. Photo: Anton Weissenhofer